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## SEQUENCE LISTING

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<120> PROTEIN DELIVERY SYSTEM USING HUMAN  
 PAPILLOMAVIRUS VIRUS-LIKE PARTICLES

<130> 20276P

<140> 09/762,794

<141> 2001-02-09

<150> PCT/US99/17931

<151> 1999-08-10

<150> 60/096,638

<151> 1998-08-14

<160> 16

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 1

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27

<210> 2

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 2

ctcgagctcg cggccgcctg taccgcaccc

30

<210> 3

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 3

gcggccgcga gctcgagggt tatattcctg caaatacaa

39

<210> 4

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 4

ccctccagat ctctaggcag ccaaagagac atctg

35

<210> 5

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 5

tcccccgga gatctgccac catgcgacac aaacgttctg caaaac

46

<210> 6

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 6

ggcagccaaa gagacatctg

20

<210> 7

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 7

cagatgtctc tttggctgcc atggagccag tagatcctag ac

42

<210> 8

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 8

ctcgtaagat ctctattcct tcgggcctgt c

31

<210> 9

<211> 240

<212> DNA

<213> Human

<400> 9

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| atgcgacaca | aacgttctgc | aaaacgcaca  | aaacgtgcat | cggctaccca | actttataaa | 60  |
| acatgcaaac | aggcaggtac | atgtccacct  | gacattatac | ctaaggttga | aggcaaaact | 120 |
| attgctgac  | aaatattaca | atatgggaagt | atgggtgtat | tttttggtgg | gttaggaatt | 180 |
| ggaacagggt | cgggtacagg | cggacgcact  | gggtatatc  | cattgggaac | aaggcctccc | 240 |

<210> 10

<211> 900

<212> DNA

<213> Human

<400> 10

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| acagctacag | atacacttgc | tctgtgaaga | ccccctttaa | cagtagatcc | tgtgggccct  | 60  |
| tctgacccct | ctatagtttc | tttagtgga  | gaaactagtt | ttattgatgc | tggtgcacca  | 120 |
| acatctgtac | cttccatccc | cccagatgta | tcaggattta | gtattactac | ttcaactgat  | 180 |
| accacacctg | ctatattaga | tattaataat | actgttacta | ctgttactac | acataataat  | 240 |
| cccactttca | ctgaccctac | tgtattgcag | cctccaacac | ctgcagaaac | tgaggggcat  | 300 |
| tttacctttt | catcatccac | tattagtaca | cataattatg | aagaaattcc | tatggatata  | 360 |
| tttattgtta | gcacaaaccc | taacacagta | actagtagca | caccataacc | agggctctgc  | 420 |
| ccagtggtgc | gcctaggatt | atatagtcgc | acaacacaac | aagttaaagt | tgtagaccct  | 480 |
| gcttttgtaa | ccactcccac | taaacttatt | acatatgata | atcctgcata | tgaagggtata | 540 |
| gatgtggata | atacattata | ttttcctagt | aatgataata | gtattaatat | agctccagat  | 600 |
| cctgactttt | tggtatatag | tgctttacat | aggccagcat | taacctctag | gcgtactggc  | 660 |
| attaggtaca | gtagaattgg | taataaaaca | acactacgta | ctcgtagtgg | aaaatctata  | 720 |
| ggtgctaagg | tacattatta | ttatgatttg | agtactattg | atcctgcaga | agaaatagaa  | 780 |
| ttacaaacta | taacaccttc | tacatatact | accacttcac | atgcagcctc | acctacttct  | 840 |
| attaataatg | gcttatatga | tatttatgca | gatgacttta | ttacagatac | ttctacaacc  | 900 |

<210> 11

<211> 282

<212> DNA

<213> Human

<400> 11

|            |            |            |             |            |            |     |
|------------|------------|------------|-------------|------------|------------|-----|
| ccggtaccat | ctgtaccctc | tacatcttta | tcagggttata | ttcctgcaaa | tacaacaatt | 60  |
| ccttttggtg | gtgcatacaa | tattccttta | gtatcaggtc  | ctgatatacc | cattaatata | 120 |
| actgaccaag | ctccttcatt | aattcctata | gttccagggt  | ctccacaata | tacaattatt | 180 |
| gctgatgcag | gtgactttta | tttacatcct | agttattaca  | tgttacgaaa | acgacgtaaa | 240 |
| cgtttaccat | atTTTTTTT  | agatgtctct | ttggctgcct  | ag         |            | 282 |

<210> 12

<211> 465

<212> DNA  
<213> Human

<400> 12  
atgcgacaca aacgttctgc aaaacgcaca aaacgtgcat cggctaccca actttataaa 60  
acatgcaaac aggcaggtac atgtccacct gacattatac ctaagggtga aggcaaaact 120  
attgctgac aaatattaca atatggaagt atgggtgtat tttttggtgg gtttaggaatt 180  
ggaacagggt cgggtacagg cggccgcgag ctcgagggtt atattcctgc aaatacaaca 240  
attccttttg gtggtgcata caatattcct ttagtatcag gtcctgatat acccattaat 300  
ataactgacc aagctccttc attaattcct atagtccag ggtctccaca atatacaatt 360  
attgctgatg caggtgactt ttattttacat cctagttatt acatgttacg aaaacgcagct 420  
aaacgtttac catatTTTTT ttcagatgtc tctttggctg cctag 465

<210> 13  
<211> 154  
<212> PRT  
<213> Human

<400> 13  
Met Arg His Lys Arg Ser Ala Lys Arg Thr Lys Arg Ala Ser Ala Thr  
1 5 10 15  
Gln Leu Tyr Lys Thr Cys Lys Gln Ala Gly Thr Cys Pro Pro Asp Ile  
20 25 30  
Ile Pro Lys Val Glu Gly Lys Thr Ile Ala Asp Gln Ile Leu Gln Tyr  
35 40 45  
Gly Ser Met Gly Val Phe Phe Gly Gly Leu Gly Ile Gly Thr Gly Ser  
50 55 60  
Gly Thr Gly Gly Arg Glu Leu Glu Gly Tyr Ile Pro Ala Asn Thr Thr  
65 70 75 80  
Ile Pro Phe Gly Gly Ala Tyr Asn Ile Pro Leu Val Ser Gly Pro Asp  
85 90 95  
Ile Pro Ile Asn Ile Thr Asp Gln Ala Pro Ser Leu Ile Pro Ile Val  
100 105 110  
Pro Gly Ser Pro Gln Tyr Thr Ile Ile Ala Asp Ala Gly Asp Phe Tyr  
115 120 125  
Leu His Pro Ser Tyr Tyr Met Leu Arg Lys Arg Arg Lys Arg Leu Pro  
130 135 140  
Tyr Phe Phe Ser Asp Val Ser Leu Ala Ala  
145 150

<210> 14  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR Primer

<400> 14  
cccagcccat gtccgccggc gctcgagctc 30

<210> 15  
<211> 40  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR Primer

&lt;400&gt; 15

gcggccgcga gctcgagggt tatattcctg caaatacaac

40

&lt;210&gt; 16

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR Primer

&lt;400&gt; 16

gtctacagag aaaccgacgg atctctagac ctccc

35